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SHIPS AND SAILORS.

If the nineteenth century has caused an unceasing modification in the conditions of labour ashore, it has affected still more profoundly the lot of those who toil on the sea. The ancient mariners who manned our war-ships and mercantile marine a generation ago, were quite a different race from those of the present day. In dress, in discipline, in ideas, in aspiration, the modern seaman differs from his predecessors, and each year induces further changes; such changes being inevitable, from the hour that ships began to be influenced by the accelerations of the century.

Steam-navigation demands men of a different type from those who floated leisurely in the 'wooden tubs,' as wind and weather permitted. In defiance of the hurricane, in the teeth of adverse gales, in mockery of the 'doldrums' and calms of every sort, the steam-driven vessel goes on to her destination. Voyages that once occupied months have been reduced to weeks. The sailor's mind is kept in a state of continual alacrity. His *personal* share in the conflict with nature is greatly reduced; and each development of modern navigation tends to merge the mariner into a part of the floating machine.

In the sailing-ship, individual bravery and smartness had immense scope for display, when storm and man fought for mastery in the giddy heights where topmasts bent under the strain like coachmen's whips. No coward was equal to the conflict that raged in that upper region; no bungler could furl the struggling sail, that wrenched and strained like a living thing. Monkey-like agility, heroic courage, dare-devil emulation, were needed in the fearful crises to which every sailing-ship was exposed. The wild tameless lads who 'would go to sea' found in the storm those terrific antagonisms that brought out the man in them; and the wild energy of nature and humanity were thus happily neutralised.

On board steamships, there is no need of such men. Thoughtful, cautious, reflective navigators are wanted, who know how to elude the whims and caprices of Neptune; and who can contrive to get at the secret of the old god's humours, instead of merely battling with them. Meteorology is studied, ocean-currents are tracked, the genesis and behaviour of storms scientifically examined. The grand object is to get from port to port with the utmost celerity and certainty—to make ocean voyages as calculable as land journeys.

Seamanship has entered upon an absolutely new phase, and demands men of another kind than the gallant but slow-witted sea-dogs that had suited ruder times. For, mingled with the bravery of these ancient tars, there were superstitions and prejudices that made them hostile to the march of the age. Long after ghosts, goblins, and portents ceased to have any influence upon the conduct of landsmen, they continued to inhabit the forecastle and to keep company with the night-watch. 'Davy Jones' was honoured and revered, when his fellows ashore were scoffed into eternal oblivion. The old-fashioned sailor, when making his money fly with his boon-companions at home or abroad, was a man of rough morals. His oaths were appalling to 'long-shore men; his conceptions of religion strangely pagan. But on board ship, amid the quietude of its monastic routine, away from rum and riot, swinging between high heaven and the unknown depths of ocean, a toy in the immensities of sky and water, the now sobered tar became deeply conscious that he lived among preternatural marvels, and that the phenomena surrounding him were stupendously mysterious. The fearful changes that passed over the firmament and the sea; awful darkness painted with lightning fires; black night-seas glowing with phosphorescent gleams; sunsets like a world in flames; unmoving ocean like an infinite pool of blue oil; raging, pitiless, invading ocean, white with deadly passion, leaping like a live thing over the bulwarks, and seizing the seaman with a mighty clutch—all these variations of nature's moods had deep significance for sailors. Baleful sprites had much

to do with the monstrous agitations that supervened in the watery world. It was needful to be on good terms with them. Science attempting to explain the origin of tempests, the phosphorescence of the sea, the Gulf-stream, trade-winds, and other wonders, was considered as a dangerous, almost blasphemous meddling with the concerns of the malign powers presiding over these departments of the world.

But superstition faded under the dominion of steam at sea, as it did on shore. Davy Jones has become as dubious as Neptune, and is no more propitiated than Æolus. The ancient order of mariners is on the wane.

If sailors have become men of another order, ships have been more modified by the endless inventions of the past half-century. From the origin of navigation until our own times, wood was the only substance employed for floating man and freight over the water-ways of the world. We have changed all that; and now metallic ships are fast supplanting wooden ones; so that in course of time, a vessel of the old type will be as great a curiosity as the canoe of a viking.

Before iron began to supersede wood, metallic rigging had commenced to supplant hemp, to the derision of sailors and rope-makers, who prophesied that such new-fangled notions would be ruinous to our maritime supremacy. Improved steering apparatus met with the same objections; machines for furling sails were looked upon with contempt by the men who were to be benefited by them. But to go to sea in an *iron* ship seemed the very extremity of absurdity. Steam had been a frightful invasion of landsmen's notions upon the sea; but this building ships of metal, which as every one knows sinks like a stone in the water, was little better than a crime. The wreck of the *Great Britain* upon the coast of Ireland gave an immense poignancy to the criticism of objecting sailors. *There* was a signal instance of what these iron monsters would come to! The *Great Britain* was the pioneer of the metallic fleet that was to drive the wooden ships out of existence. Lying upon the Dundrum shore, she was a beacon warning to keep clear of such mad innovations. Alas for old ideas and untimely croakers! the *Great Britain* was lifted from her supposed final resting-place, and became the most famous, successful, and profitable ship of her time. Thousands of passengers were transported by her to Australia, and vast quantities of the new gold were brought by her to England.

The *Great Eastern* was another example of failure that old sailors rejoiced to instance. Truly, Brunel's leviathan has been unprofitable to her owners; from the time of her launching until the present hour, she has been a maritime white-elephant. But it is a pity that individuals should have to bear the charges of the grand audacity that Brunel perpetrated; for the *Great Eastern* has perhaps done more to extend civilisation than any other ship that has sailed the sea. By her indispensable aid, the Atlantic telegraph cable was laid, an instrument which has blessed mankind, and will for all future time. If the inhabitants of Europe and America ever feel grateful for the improvements of the past twenty years, they should not forget how much the *Great Eastern* has contributed to them.

Besides her aid in telegraph development, the big ship furnished the experience that is now causing so great a change in the tonnage of our mercantile fleets. For years after her construction, it was universally believed that she was the first and the last of the leviathans. Her voyages had been marked with disasters, which were attributed to her unmanageable proportions. Then, instead of clipping through the ocean billows as steadily as a train running over land, she rolled like a vast log in the water; and so far from eliminating sea-sickness, inflicted special agonies upon her passengers. And a yet more serious objection was urged, that in case of shipwreck, the loss of life might be appalling; for the *Great Eastern* could carry four or five thousand emigrants. The same objection applied to her as a military transport. In an emergency, ten thousand troops could be carried by her, and it was urged with much plausibility, if she went down with such a large proportion of our small army, that a national panic would result. So the *Great Eastern* has passed the greater part of her existence like a worn-out hulk.

She furnishes another instance of the great law of progress—namely, that invention must wait on experience. Brunel and his financial supporters were ahead of their time. Now, mankind have begun to catch them up. Further invention, the more urgent demands of our broader civilisation, improved navigation, the spread of population in the United States and Australasia—all these compel ship-owners to increase the dimensions of their vessels. Each year the comparisons between the first leviathan and her sisters grow less; and it is not rash to believe that even the phenomenal proportions of the *Great Eastern* may yet be surpassed. The *Servia*, the *City of Rome*, and the recent *Aurania* of seven thousand five hundred tons, prove that a great change has come over the opinions of those concerned with ocean transport.

The whole tendency of our time is towards the aggregation of effort—the massing of capital and labour. A ship of five thousand tons can be built cheaper than five ships of one thousand tons. In the working, there is a still more striking economy. One captain, instead of five, and so on through the whole crew, engineers, stewards, and the rest. In the purveyance for passengers, five thousand cost less than one thousand proportionately. Nor is that all. Large ships can be propelled quicker than small ones, if the whole conditions of construction, engines, and propellers be observed. Large ships have more space for coal-stowage, a most important matter in ocean traffic, for the economy of time and money. These considerations are further assisted by several great advances made in marine engines and in the material of the hulls. Compound engines introduced a vast economy into steam-navigation; but with improved boilers and methods of generating steam, a still greater economy will be effected; and it may soon come to pass that our ocean leviathans will be driven with a much less coal expenditure than at present, and by propellers more powerful and more easily managed than the screw.

Speed, however, has become the first desideratum afloat, as on shore. But speed must be accompanied by safety. What the traveller wants is to get quickly to the end of his journey, not to the end of his life. In this all-important

question of safety, some of the shrewdest minds have been and are still engaged. Ships are built in floatable sections; so that in case of wreck or collision, if one part be injured, the others will not sink. Indeed, it followed as a matter of necessity that iron ships should be made buoyant by novel devices, seeing that in case of disaster, wood had the advantage. Thus, the effort has all along been to join strength with elasticity. Recent improvements in making steel, now place in the ship-builder's hand a material that seems equal to any mishap that even ocean-navigation may be liable to. Mild steel appears to be a sort of metallic india-rubber that will stand any amount of strain, or impact, without fracture. For some time steel has been taking the place of iron, from its greater strength and lightness combined; now that this new kind is introduced, having still greater advantages, and as the cost of it will be doubtless reduced by its growing employment, we may see an acceleration of the maritime revolution which has been going on for half a century. The ships which are swift and sure will certainly drive out those which are slow and unsafe. Competition is feverishly active in every avenue of business, and in none more than in the mercantile marine. The *Alaska*, of the Guion Line, has shown that the Atlantic can be crossed within seven days; not by good luck, but by good engines, right course, and resolute navigation. Messrs Inman have discarded the *City of Rome* because she has not speed, and they doubtless will replace her by a ship that will at least equal the *Alaska*, perhaps surpass her. At anyrate we may be sure that Messrs Inman will avail themselves of the last achievements in naval architecture and engineering.

Nor is it only among British ship-owners that competition obtains; there are signs on the other side of the Atlantic that the ocean is to be crossed in a yet shorter time than our own steam greyhounds require. The dome-ship *Meteor*, now building on the Hudson, is expected to go from New York to Queenstown in little over five days; she is to run at the rate of twenty-five miles an hour. In many respects, the *Meteor* is a marine novelty, being decked over, so as to glide through the Atlantic surges, instead of over them. She has no masts. Experience alone can demonstrate if she is to accomplish what her designer expects; but whether she fails or not, it is certain that the next few years will witness many further experiments in ship-construction, in methods of propulsion, and in economies connected with both.

M. Raoul Pictet, the eminent engineer of Geneva, is said to be engaged upon a new system of ship-building; and from his remarkable achievements in other departments of physics, it may well be that he will win further successes in this new field. It is said that he expects to cross the sea at the rate of thirty-seven miles an hour. Such speed would produce an extraordinary change in the commercial relationships of mankind, and would hasten that redistribution of nations that is now going on so fast in America and Australasia.

And lately there has entered upon the scene a new agent, that may have incalculable results upon navigation and navigators. It is electricity. A year or two ago the public of Paris were shown an electric boat, designed by M. Trouvé, and experimented by him upon the Seine. Although but a large toy, it proved that electricity was capable of being applied as a maritime motor. The experiment was quite as successful as the early attempts to propel vessels by steam; and those who knew how great the progress of electrical art has been of late years, had no doubt that it would eventually be applied on a larger scale. Such has come to pass. On the 29th September 1881, an electric launch, twenty-six feet long and five feet broad, drawing two feet of water, having on board four passengers, went from Millwall to London Bridge—a distance of nearly four miles—at a speed of eight knots an hour against the tide. The return-journey was made in twenty-four minutes. It was calculated that the electric energy expended was equal to three and one-eleventh horse-power.

This striking proof of the capability of electric propulsion will soon be followed by demonstrations on a still larger scale, and by which the commercial value of such a motor can be further tested. After all, the question of navigation is decided by economy. Steamships are superseding sailing-ships simply on their commercial merits. A steamer costs much more than a sailer, and is much more expensive to navigate. But it will make three or four voyages to the sailer's one; and calculated by cost per mile sailed, and per ton of cargo and per passenger transported, the steamer is found to be far cheaper than its rival. So it will be with electric ships—they can succeed only on their commercial merits. Electricity, however, is in the same tentative condition that steam was a century ago. Who can say to what extent the subtle power may be applied ere a hundred years elapse?

But be they great or insignificant, one thing is certain—sailors will be still further changed from the type of the ancient mariners we knew in our boyhood, than they are to-day. Sailing-ships will disappear as the isthmuses of the world are pierced and the old routes are discarded. The Suez Canal has caused a revolution in itself; and if Panama be ever cleft, the trade of the world will again be metamorphosed. Each improvement in the craft demands a corresponding improvement in the sailor; no longer is he expected to be a mere animal of toil, but an intelligent link in a chain of causes working out the welfare of the world. The steam-tiller enables him to steer the huge monsters he controls as easily as a skiff; the steam-winch has relieved him of the labours of hauling; the rapidity of his transits from port to port has relieved him of the dreary monotony of long voyages; and better food and treatment have raised him in the scale of humanity.

In a word, the lot of the sailor partakes of the ameliorations going on among the humbler toilers of the world. Although improvement has certain disadvantages attending its first steps, these disappear. No doubt the age of steam has introduced into our mercantile marine a vast number of foreigners, to the injury of our own tars in the matter of pay, and to the detriment of the nation's maritime strength in case of a great and prolonged naval war. But such was inevitable, as Great Britain has supplanted the shipping of so many foreign nations. The decline of apprentices, the employment of 'ordinary' seamen, the

poor wages of able seamen, and the profitableness of the fishing industries, have all contributed to limit the numbers of British sailors, and thereby to increase the number of foreigners sailing under our flag. Still, the royal navy is manned by splendid fellows, as the Egyptian war proved; and in case of a supreme struggle with the naval powers of other peoples, England would find no lack of heroes to keep up her traditions.

And when the maritime business of the world has further developed, when Africa and Asia are further included in the domain of international commerce, the condition of the British sailor will be higher than at any previous time. Taking him altogether, he is the best mariner that sails the sea; and he is better capable of adapting himself to changes than his competitors. Whatever be the advantages of other nations in soil, climate, or industry, the British, as the carriers and navigators of the ocean, have no superiors; and the progressive civilisation of the world means the increase of our maritime grandeur.

ONE FALSE, BOTH FAIR;

OR, A HARD KNOT.

CHAPTER III.—LANDING AT SOUTHAMPTON.

Six days after the eventful night when the white-squall had tested the endurance of ship and crew, the fine Peninsular and Oriental packet *Cyprus* was gliding through the placid tide that filled Southampton Water, dear to yachtsmen; and hearts beat high, and eyes brightened or grew dimmed with tears, as the expectant passengers prepared to disembark on British ground. Then came the bustle of the actual landing, the noise, stir, and confusion, the hurried farewells to those who had of late been constant companions, but whose mutual memory would soon fade into the casual recollection of a pleasant travelling acquaintance; and next the rush and iron clang of the swift train speeding Londonwards, bearing with it all the passengers with the exception of the two sisters, their servants, and Arthur Talbot.

Half an hour later, a train was ready to start for the West, and by this the Marchioness and Miss Carew were to take their sad journey to the splendid home which the widowed bride and her young husband had quitted but a year ago.

'This is very kind of you, Mr Talbot,' said the Marchioness, as their late fellow-traveller, having placed Lady Leominster and her sister in the railway carriage, still lingered at the door, while the servants bustled to and fro in their professional anxiety for the safety of the luggage.

'I am an idle man,' answered Talbot, smiling; 'and my home, as I think I have mentioned, is but a short nine miles from here.'

'It is called Oakdene Hall, or Park—is it not?' asked Miss Carew thoughtfully.

'Yes,' replied the young man; 'Oakdene is the name. The old house should be flattered by your remembrance of it.—Though it would seem but a poor little nutshell of a place, Lady Leominster, beside Castel Vawr.'

Then came the parting, that conventional 'good-bye,' that may mean so much or so little, now lightly or mechanically uttered, now fraught with a tender sadness or agony of regret. Arthur Talbot's voice was not quite steady as he returned the Marchioness's farewell, and released the little hand that she held out to him from the open window of the railway carriage. As the train slid away from the platform, he remained motionless, following it with his eyes until it was lost to sight; and then turning away, walked slowly and musingly, almost sadly, to the hotel where he knew that he should find his carriage. He had ordered it to be in readiness to convey him home. Home! Oakdene was the abode of his boyhood certainly, and he had a lingering attachment to the place; but the red brick Hall of Queen Anne's reign had been very little of a home to him since he had come, perhaps too early, into possession of his small estate. There was no one at Oakdene who loved him, and would await his coming with the eagerness of affection; only servants more or less faithful, who regarded the visits of their young master, rare and brief, from their own point of view.

London, Paris, Italy, had seen much more of the young Squire of Oakdene since he attained his majority, than had his own quiet acres of pasture and arable and woodland. It was in London that he had reckoned among his dearest friends the late Lord Leominster, but that was in the latter's bachelor days. When the Marquis married, Talbot was abroad; and their next and last meeting took place far up the Nile, when this world and its pomps and vanities had come very nearly to an end for the Most Honourable Wilfred of Leominster. Then their paths of travel again diverged; and it was by the merest chance that Arthur Talbot found himself a passenger on board the steamer in which the widowed Marchioness and her sister were returning to England. Somehow, on his homeward drive that day along the familiar road, and as he sat afterwards at his solitary dinner, with the old portraits of long-dead Talbots, his ancestors, like silent friends, eyeing him from the walls, the image of Lady Leominster, gentle, sad, and beautiful, was seldom absent from his thoughts.

Meantime the train, throwing behind it miles and leagues of moor and meadow and forest, seas of sprouting corn and ranges of humpbacked downs, scarred here and there by white cuttings that laid bare the chalk, reached the rougher and wilder landscape that lay far to the north-west. Those blue Welsh hills that towered, almost threateningly, through the haze of the horizon, how often had they frowned defiance on the invader, from the day when the Roman legionaries under Ostorius, warily plodding on with sloped spears, in weary march espied them, until that which saw King Henry's last expedition against rebellious Glendower. These were the fastnesses to which the beaten Britons had been driven back under stress of Saxon swords, and whence the wild clans of the Cymri made raids on the rich lands for ever torn away. Those times were gone, like the Bards and the Druids, and no lord-marcher was needed now to hold his fiefs by snaffle and spear, as when the Most Noble the Marquis of Leominster was a Marquis indeed, with a mark to guard, and fierce hereditary foes to keep back from harrying

the peaceful tillers on the English side of the Border. Yet yonder rises on its eminence, with dark woods around it, Castel Vawr, flashing back the sunbeams as of old, more beautiful, if less strong, than before the mantling ivy and the drooping foxglove and tenacious bindweed had clung to its venerable towers, and before the once-new white Norman masonry had assumed the picturesque grayness of hoary age.

At a tiny station, where, nevertheless, other than parliamentary trains were wont to stop, since railway Companies are accommodating where a great landowner and a peer of the realm is concerned, within easy reach of Castel Vawr, the two sisters alighted. There were carriages from the Castle in waiting there, and a *fourgon* for the luggage, and black liveries, and a respectful little rustic crowd of frontier-folks, who hardly knew to which nationality, Celtic or Teutonic, they belonged; who talked English in the alehouse and sang Welsh hymns in chapel, but who took off their broad-brimmed West-country hats with a low murmur of inarticulate reverence, as the widowed mistress of the great Castle passed through the midst of them on her way from the platform to her carriage. That carriage, with its sable hammercloth and coroneted panels, blended emblems of pride and woe, rolled off, swiftly and smoothly, along the well-kept road. It was bright spring weather, the lark carolling aloft, the saucy chaffinch chirping from the apple-boughs that overtopped the woodbine-clustered hedge of some cottage garden.

But the occupants of the carriage, as it traversed this smiling landscape, had remained silent, until at length one of them said almost timidly, in a low sweet voice that was broken by emotion: 'I hope, my darling sister, that we at least shall never be parted. I have but you in the world now, remember, and we two should never separate.'

With some slight expression as of perplexed surprise, but with ready tears welling up to her gentle eyes, she who was addressed bent forward to kiss the speaker's pale cheek. 'We never will, dearest, if the choice rests with me!' she said softly, and then the two sat for some moments hand in hand, but mute.

The carriage had by this time reached the lodge gates of the ample Park, and was rolling along amidst green lawns and bosky dells, beloved of the fallow-deer, under the arching oaks of the grand avenue.

Again was heard that sweet tremulous voice: 'I do hope, love, that we shall both feel equally at home at Castel Vawr, as we did once at poor shabby old Carew. I do hope that it will be your home, dear sister, while I live, as well as mine.'

Again the look of pain and surprise crossed the listener's fair face; but the only reply was a smothered sob, for just then the carriage dashed up to the stately front of the Castle and came to a stop before the great doors, wide open now, while a muster of liveried servants stood on the broad stone steps waiting to welcome their mistress.

In the great drawing-room of Castel Vawr, the many windows of which commanded a matchless prospect of vale and river and the bold chain of the Welsh mountains beyond, sat Lady Barbara Montgomery, a spinster aunt of the late Marquis, tall, upright, and dignified, with aquiline features and iron-gray hair smoothly braided. Unfriendly social critics not unfrequently remarked of Lady Barbara that she was as cold as an icicle and as hard as a flint; but the remark was not quite just. She was a proud woman, nothing more; but then nobody loves the proud if pride implies undue reticence. The silent are always at a discount in society, and very few of us have eyes keen enough to penetrate the defensive armour of such as Lady Barbara. She was not proud because she was a Lady Barbara—not in the least. With her the pride was quite innate, and would have made itself obtrusively manifest had she been the daughter of the pettiest village shopkeeper. As it was, it centred in the strongly felt remembrance of her ancient lineage, and in the appreciating of a semi-feudal splendour and dignity of deportment doubly dear to her because nothing else had ever awakened her frigid fancy.

Two-thirds of Lady Barbara's life had been spent at Castel Vawr, and yet she was by no means dependent either on her brother the former, or her nephew the late, Marquis. An early bequest had made her rich. She had a good London house, had she chosen to live in it, and a handsome income, had she cared to spend it; but she clung to the Border Castle with an attachment that was absolutely catlike; and her great fear had been that she might have to leave the house that was her birthplace, as the chiefship of the family might now devolve upon a cousin. That fear, however, was happily averted. The late Marquis had possessed an unusual power of making splendid settlements for his young wife's benefit, and Clare was to have the castle and lands for her life. Lady Barbara had not much apprehension that the widowed Lady Leominster would either object to her continued residence beneath that stately roof, or interfere to any serious extent with her customary household arrangements. The Marchioness would reign, of course, as titular sovereign; but hers would be a sway like that of some Merovingian king of France, with My Lady Barbara for a petticoated Mayor of the Palace.

Lady Barbara was not on this occasion alone. With her was the family solicitor Mr Pontifex, of the well-known firm of Pounce and Pontifex, who had journeyed down from Lincoln's Inn expressly to receive the widow of his late noble client on her first arrival as absolute mistress at princely Castel Vawr. These hereditary lawyers often come to consider themselves as part and parcel of the great families whose marriage and mortgage deeds they have continued to draw, and whose feuds and weaknesses and whims have been laid bare before them for successive generations. Pounce and Pontifex, who were, so to speak, legal confessors to half the peerage, had a special regard for the House of Montgomery-Leominster. Mr Pontifex himself, a round little man, with gray whiskers, gold-rimmed glasses, and wholesome pinkish face, looked very like a country banker or land-agent, and not in the least like the ideal of a London attorney. His manner was at once bland and abrupt, perhaps jerky; and he took a good deal

of strong-scented snuff from a costly box, the valued legacy of a ducal client long deceased.

'How fortunate, as I said before, that poor Wilfred was so thoughtful,' said Lady Barbara, after a pause, during which lawyer and lady had alike been listening for the expected sound of wheels; 'and that he was able, too, to dispose of his own. For otherwise, Adolphus Montgomery would have been master here, and Castel Vawr could have been no home for me any more.'

Adolphus was the name of the new Marquis of some weeks' date, and Lady Barbara could not endure as yet to speak of him otherwise than by his plain Christian and surname, while even these she pronounced with a little pardonable irritation. It provoked her that the Leominster coronet should have passed away from the main stem—her own—to a younger branch, descended from a half-forgotten cadet of long ago. Such feelings may be foolish, but they are not unnatural. Be sure that Marguerite of Valois, discarded wife and divorced queen of the Great Henri, had her own private notions as to the mushroom pretensions of the then upstart royal House of Bourbon of Navarre! The remark was transparently selfish, but it did not surprise Mr Pontifex, who merely showed his white front teeth as he replied: 'Very fortunate! The present peer, however, will—— Ah! there *is* the carriage.'

IS THE SUN WASTING?

During the last twenty years, the subject of the constitution of the sun has attracted very great attention, not only amongst scientific men, but amongst intelligent readers of books and newspapers. We think it therefore of interest to give our readers a popular account of the different theories upon the sun's heat, and especially a new one bearing the name of Dr Siemens, whose reputation is so well known from his discoveries in metallurgy and electricity, and who filled the chair of the British Association for the Advancement of Science at its meeting at Southampton.

Most of our readers doubtless know the chief figures which denote the dimensions of the sun, especially since the transit of Venus eight years ago led to a correction of the distance of the sun from the earth, according to the figure that had for many years been accepted. But perhaps not so many persons have realised the enormous figures that represent the heat of the solar orb, as contrasted with the figures that we are familiar with on the subject of terrestrial heat.

The volume of the sun is about one million three hundred thousand times that of the earth, and its distance from us, in round numbers, about ninety-three millions of miles. And since we all of us every day see the wonderful effects of the heat and light which even this little world of ours receives, we can form some faint idea of the enormous amount of heat continually given out by the sun and the prodigious waste that must be going on. And if we would form any real estimate of this heat and waste, we must remember that all the light and heat which is received by the earth and other planets is a very small proportion of the amount that is being continually poured forth. It might be shown, with a moderate knowledge of geometry, that the amount so shed into space, where there are no planets to receive it, is two thousand two hundred and fifty million times as great as that which is received by all the planets which form our solar system.

We naturally ask: What is the condition of a body which is capable of throwing out for thousands, and perhaps millions of years, so vast an amount of light and heat? For it has been computed that the temperature of the surface of the sun would be expressed by eighteen thousand degrees of Fahrenheit's thermometer, or between eighty and ninety times the temperature of boiling-water. This is about five times the highest temperature that man is able to produce by artificial means. Also the light given off from the same surface is computed as being five thousand three hundred times more intense than that of the molten metal in a Bessemer converter, though that is of an almost blinding brilliancy. Or if we compare it with the oxy-hydrogen flame, the sun sheds a light equal to a hundred and forty-six times the intensity of the lime-light.

So intense is the heat of the sun, that no known substance could remain in a solid form when subjected to such a temperature. Hence it has been concluded that the entire orb, vast as it is, is an aggregation of gases altogether void of any trace of liquid or solid substance; moreover, that the outside visible surface of the sun flows like the surface of the sea, or rather like vaporous masses of cloud and misty air. But we must not suppose that this vaporous material is of little weight throughout the whole substance of the sun; for in consequence of the sun's vast size, the pressure in the inward portions must be so great through the influence of attraction, that the internal mass is believed to be denser than water. And as the late Professor Clerk Maxwell and others have shown that the viscosity or tenacity of a gas increases fast with the rise of its temperature, it is possible that the vaporous matter of the sun's interior would resist motion like a mass of pitch or putty.

When thinking about this enormous amount of heat, philosophers have naturally inquired whether it is being dissipated gradually, or whether it is by some means sustained undiminished; and if so sustained, by what means. There have until recently been put forth two theories on the matter; but recently a third has been broached by Dr Siemens, and it has appeared in the *Nineteenth Century* under the title of 'A New Theory of the Sun'—that is, as regards the sustentation of its light and heat. We will mention the old theories in their natural order. First, all our everyday experience teaches us that when combustion is taking place, the substances which are giving out light and heat are parting with their matter, and causing it to assume different forms, as gas and a residuum of ashes. We see this in the burning of a piece of wood or coal, or even a piece of paper. We do not say the substance is lost. If we could gather up

all the products of the combustion, we should find that they had not lost a particle of their weight, but that the form of them was materially changed. This, then, we conclude is the case with the sun. As we have stated above, the enormous light and heat which is being continually thrown into space, proves that the sun is converting much of its substance into other forms; and unless the waste be supplied from some external source, the material of which the orb is composed cannot fail to be gradually diminishing; though in the case of a body of such large dimensions, it must be a long time before there is any perceptible diminution either of volume or heat. But the loss of heat is by some believed to be compensated by the diminution of volume. Professor Newcombe, of Yale College, United States, has come to the conclusion, that with the diminution of the mass, the heat augments; and that, by this compensation, a shrinking of the mass might go on for five millions of years, and that it would then be eight times as dense as it is now. And he concludes that the present conditions of radiation of heat and light cannot have gone on for more than ten millions of years, and probably cannot support life on the earth as now for another ten millions. This theory, then, does not profess to provide for an indefinite continuance of the sun's present powers. And we may add, by the way, that even if we are led to contemplate the ultimate extinction of light and heat in the sun, it is no more than appears to have happened in the moon, which appears to be a dark and inert mass, the rotation of which has been perhaps stopped by some such tidal action as we know is at work upon our planet, and very slowly, but steadily, retarding our diurnal rotation. That the moon does not rotate is manifest from the fact that it always presents the same face to the earth. The first theory, then, does not profess to show that the sun's waste is repaired from without.

The second theory is, that the waste is repaired, both in volume and heat, by the continual impact or striking of meteorites upon its surface. This theory is due to Dr Mayer of Heilbronn, and was published in 1848. It was enthusiastically received by Sir William Thomson of Glasgow, one of the greatest physicists of the day, and who is especially known for his successful researches in electricity. It is well known that if a body when moving rapidly be suddenly stopped in its course, heat is the immediate result. We may see this exemplified when a bullet is fired against a stone wall; the lead becomes heated. This theory supposes that the sun is being perpetually hammered like a ponderous anvil by falling meteors, and that its heat-energy is maintained as a lump of iron is kept hot by the vigorous blows of a blacksmith. Various calculations have also been made as to the amount of heat generated by the impact of a small planet, or other mass, the weight of which can be computed. But surely if there were falling continually on the sun such a mass of meteors as would repair the regular waste, the earth would meet with a good deal more of such matter than it does in the periodical meteoric display in November and other occasions; and the orbit of the planet Mercury, which is the nearest known of the sun's satellites, would exhibit some traces of this powerful influence. We can therefore hardly attach much weight to this theory.

We now come to the new theory started under the powerful name of Dr Siemens. It seems very probable that the theory has been suggested by observation of the regenerative gas furnace of which he and his brother, Herr F. Siemens, are the originators, wherein the surplus heat, which has not been at first utilised for work, is returned through a central regenerative chamber to the gas and air about to be burned, before the waste products, with which it was previously associated, are sent up the chimney.

Dr Siemens starts with the following assumption, that all the space between the planets, and even between the fixed stars, is filled with something of a much more substantial character than imponderable ether. Many of our readers will know that the phenomena of light have been for many years explained by what is termed the undulatory theory of light, which presupposes the presence of a very subtle fluid termed ether, pervading all space; and that the vibrations of this ether produce all the phenomena of light, including the variety of colours in the rainbow, or as seen in a prism. But Dr Siemens's new theory of the sun demands the presence of a much more substantial medium. We cannot here go through all the considerations which have led him to his conclusions, but may briefly state that he considers that the materials thrown off from the sun by its energetic action are through the presence of this gaseous medium 'dissociated' or resolved into elementary substances; and when so resolved, burst into flame under the influence of the heat; and are turned back into the compounded state, as hydrogen is converted into water upon earth with the evolution of flame. Then he assumes that the matter so converted is acted upon by the sun's attraction, and redrawn into the mass of the sun by its enormous gravitating power. Our author is careful to guard his theory from being looked upon as one involving the idea of 'perpetual motion;' but it certainly presents an appearance of such a principle at first sight.

We can but briefly discuss the great difficulties that beset the reception of this theory. In the first place, it is needful to prove that this gas, upon the existence of which the whole theory rests, has any existence at all. And there are these two main objections to its presence. If this vapour be dense enough to arrest the heat-rays of the sun, and to convert them by 'dissociation' into materials upon which the sun's attractive power can have the ordinary influence of gravitation, then the flame, having the nature of a resisting medium, must have the effect of producing a retardation of the planetary movements; a result which, if it existed, would long since have been detected. And if it be not dense enough to produce this resistance, it is difficult to conceive that it can have sufficient coherence to enable it to arrest and deal with the heat emanations of the sun. Again, we observe in our own atmosphere that the smallest trace of watery vapour is sufficient to intercept the heat of the sun, and by formation of cloud, to shut the sun's rays from the earth. Surely, therefore, if the whole of space is pervaded by a gas containing the least amount of vapour, the sun's rays while passing through

that vapour for nearly ninety-three millions of miles would be so intercepted that none of the effect of the sun's heat which we now enjoy could be felt upon the surface of the earth.

On the whole, then, we find it more easy to accept the doctrine of the gradual dissipation of the solar heat through the immensity of space, and the progressive exhaustion of the sun as a central power of light and heat, than to adopt this new theory, even though promulgated by so eminent a scientist as Dr Siemens.

FOR HIMSELF ALONE.

A TALE OF REVERSED IDENTITIES.

CHAPTER III.

EIGHT weeks had come and gone since Frank Frobisher heard the news of his good fortune from the lips of Mr Gimp. Eight weeks had come and gone since Dick Drummond's assumption of his friend's name and position, and the secret had not yet oozed out. To the world at large, including Mr Pebworth, Dick was the lucky Mr Frobisher who had dropped in for a fortune of eight thousand a year; while Frank was Mr Frobisher's secretary and humble friend. By this time they were settled at Waylands, a charming country-house among the Surrey hills, which Mr Askew had bought ready furnished a few months before his death, but which he had not lived to inhabit. Thither too the Pebworths had been invited.

It was a lovely midsummer morning, and breakfast at Waylands was just over, when Mr Pebworth sauntered across the lawn, his arms laden with letters, newspapers, and prospectuses. The postbag had just arrived, and he was anxious to secure a first glance at the *Times*. He selected a rustic seat and table that were sheltered from the sun by the branches of a large elm, and there he sat down and proceeded to unfold his newspaper. Scarcely had he skimmed the first lines of the money article, when a young lady in white and rose colour, with a straw-hat, and a book under her arm, came stepping out through the open French-windows of the breakfast-room, and after pausing for a moment or two, put up her sunshade and walked slowly in the direction of Mr Pebworth.

The lady in question was that gentleman's only daughter, Miss Clunie Pebworth. She was a tall, thin young woman, the angularities of whose figure not all the art of her dressmaker could effectually conceal. She had fluffy light flaxen hair, large prominent blue eyes, a well-shaped nose, and an excellent set of teeth, which she took every opportunity of displaying. The normal expression of her features when she was alone, or in the company of no one for whose opinion she cared, was one of querulous discontent and incipient ill-temper. You see, she was five-and-twenty, and had not yet found a suitable partner for life. Some one had once told her that she looked 'arch' when she smiled; the consequence was that she smiled a great deal, but her smiles rarely extended as far as her cold blue eyes. Miss Pebworth was not one of those foolish virgins who believe in simplicity of attire. It may be that she knew her own deficiencies, and was aware that it would not suit her to play the part of the Shepherdess of the Plain. In any case, even on this hot June morning her white dress, with its rose-coloured under-skirt, was befrilled and befurbelowed beyond anything to be found in the Book of Fashions, of which she was an assiduous student. Whatever was exaggerated in that, became still more exaggerated when adopted by Miss Pebworth. For the life of her, Clunie could not come down to breakfast without four or five dress-rings on her fingers; but then, as she herself would have said, where's the use of having a lot of jewellery if you don't take every opportunity of showing it off?

Mr Pebworth, when at home, lived in the pleasant suburb of Bayswater. His house was a highly-rented one in a semi-fashionable square; but it was essential to Mr Pebworth's schemes that he should make a good appearance before the world; while it was not needful to tell every one that a rich old general and his unmarried sister occupied the best rooms in the house, and thereby helped materially to lessen the expenses of the establishment.

Mr Pebworth's offices were up an old-fashioned court in one of the busiest parts of the City, the said offices consisting of one large room divided by a glass-and-mahogany partition into two small ones. There were several other offices in the same building, a massive edifice which dated back to the period of William and Mary, and had evidently at one time been the home of some notable City magnate. Among other legends inscribed on the broad oaken door-jambs might be read this one: 'MR ALGERNON PEBWORTH, General Agent, &c.'

Now, the phrase 'General Agent, &c.,' is one capable of a somewhat wide application, as Mr Pebworth when he adopted it was probably quite aware. What Mr Pebworth's particular line of business might be, and from what sources the bulk of his income was derived, were things probably known to himself alone. It is quite certain that neither his wife nor daughter had any fixed ideas on the subject. It was generally understood that he was more or less mixed up with the promotion and launching of sundry joint-stock companies and speculative associations of greater or lesser repute—not unfrequently the latter; while those who were supposed to be best informed in such matters averred that he was merely a catspaw and go-between for certain big financiers, who did not always care to let their names go forth to the world until the golden eggs with which they strove to tempt the public should be successfully hatched, there being sometimes a risk that the eggs in question might turn out to be addled. Be this as it may, Mr Pebworth had hitherto contrived, by hook or by crook, to keep his head above water, and the Bayswater establishment showed as good a face to the world as most of its neighbours.

Elma Deene had been an inmate of her uncle's house about six months when we first made her acquaintance. Previously to that time, she had been living with some of her father's relatives in Devonshire.

It was essential to the due carrying out of Frank Frobisher's scheme that he and his newfound relatives should be brought into frequent, if not daily contact. There was only one mode by which this could be effected, and that was by

having them as guests at Waylands. Fortunately, the rich old general and his sister were away in Scotland at this time, so that the pressing invitation, of which Drummond in his assumed character was the mouthpiece, had met with a ready response. Mr Pebworth found a convenient service of trains for running backwards and forwards between Waylands and the City as often as he might feel so inclined; Miss Pebworth cherished certain matrimonial designs against her rich cousin; while Mrs Pebworth, though often troubled inwardly when she called to mind that her own house was left in sole charge of a cook and parlour-maid, both of whom doubtless had followers—however strenuously they might deny the soft impeachment—did not fail to derive a genuine housewifely pleasure in arranging and putting in order her bachelor nephew's new establishment.

Mr Dempsey and Captain Downes Dyson, whose acquaintance we shall make later on, were business friends of Mr Pebworth; and after a dinner at Simpson's, at which Dick had been present one day when in town, had been invited down to Waylands, on a hint thrown out by that astute individual.

Having stated these necessary preliminaries, we will return to Miss Pebworth, who by this time had seated herself on a rustic chair opposite her father.

'Do you want to speak to me, papa?' she asked.

'I do want to speak to you,' answered Mr Pebworth, as he laid down his paper and removed his eyeglasses. 'I want to know what progress you are making with your cousin.'

'I am making no progress at all. I never shall make any progress with him. I told you so a fortnight ago.'

'Then all your attractions are thrown away upon him—all your pretty coaxing ways are of no avail?'

'Of no avail whatever. Mr Frank Frobisher might be made of mahogany, for any impression I can make on him. I've tried him with half-a-dozen things—with painting first of all. I got Vasari's Lives and a volume of Ruskin, and was for ever talking to him about chiaro-oscuro, backgrounds, foregrounds, middle distances, and mellow tones. At last Frank burst out laughing in my face, called me a little goose, and said I didn't know a bit what I was talking about.'

'Very rude of him, to say the least.'

'I've tried him with other things—racing, hunting, shooting, poetry, landscape-gardening; but all to no purpose. He listens to all I say, agrees with me in everything; but all the time I feel that he is laughing at me in his sleeve.'

'Any signs of a prior attachment?' asked Mr Pebworth after a pause.

'Not that I have been able to discover. He seems utterly indifferent to female society, and to have no enthusiasm about anything.'

'Has probably been jilted, and still feels the smart.'

'I have given up the case as hopeless.'

'Why not make one more effort?'

'It would be quite useless, papa.'

'One more effort, Clunie. Think how magnificent will be the prize if you succeed! Eight thousand a year!' Then laying one hand earnestly on her arm, he added: 'It would be *my* salvation, girl, as well as yours.'

For a few moments they gazed into each other's eyes.

'To please you, papa, I will try once more,' said Clunie at last; 'but I feel how useless it will be.'

'It is a forlorn-hope, I grant; but a forlorn-hope sometimes succeeds through sheer audacity.'

'You have told me nothing yet about the fresh arrivals, Mr Dempsey and Captain Dyson.'

'I can catalogue them for you in very few words. They are both rich, both unmarried; consequently, both eligible. Dempsey is bordering on sixty years of age; Dyson is about thirty. If Dempsey were not a rich man, he would be a travelling showman. His house in Essex is quite a menagerie. Talk natural history to him. Tell him that whenever you go to town, you never fail to spend a long day in the Zoo, and that to you even the hippopotamus is a thing of beauty and a joy for ever.'

'I won't forget.'

'Dyson's mania is for telling long-winded stories about his adventures as a traveller. You must profess to be deeply interested in his narratives, and accept them all as simple statements of fact. Do this, and you can hardly fail to win the heart of Captain Downes Dyson.'

'I understand, papa.'

'Make one more effort with your cousin. If it fail, give him up for a time, and try your hand on Dyson. He is younger, simpler, and will be more easily manipulated than Dempsey. It will be time enough to try the latter when you fail with Dyson. My blessing will accompany your efforts.—Hem! We are no longer alone.'

Mr Pebworth was right. Quite a little group of people, after standing for a few moments in the cool shade of the veranda, were now adventuring across the sunlit lawn. First of all came our long-legged friend Dick Drummond, who was believed by all there to be their host Mr Frank Frobisher. Next to him came Mr Dempsey and Captain Dyson, deep in conversation. Last of all came Elma Deene with her sunny face and lithe graceful figure.

Our friend Richard no longer looked like the same man whose acquaintance we made in Soho. His leonine locks had been shorn away till no more was left of them than would have commanded the critical approval of any military barber. For several days after the operation, Dick averred that he felt quite light-headed. The mathematically straight line down the middle was a source of much trouble to him every morning. His once ragged sandy moustache had not been neglected, but had been trimmed and waxed and coaxed till it would not have done discredit to a captain of dragoons. His threadbare velveteen jacket, his baggy trousers, and his down-at-heel boots were as things that had never been. The dark tweed suit which he now wore had been constructed by a West End artist; while his patent shoes and snowy gaiters instinctively carried the mind back to the pavements of Piccadilly and Bond Street. In the matter of collars, cuffs, and scarfs, Dick was elaborately got up, while it was a strange experience to him to know that there was no laundress's account in arrear, and that he might indulge in clean linen every day, were he so minded. If he took

out of his pocket once a day the gold chronometer which Frank had made him a present of, he took it out forty times. Only two months ago he had rather despised a man who carried a watch. As for the splendid brilliant which he wore on the third finger of his left hand, all that can be said is, that when one has a moustache, one generally twists it, or tugs at it, or strokes it, as the case may be, with the left hand.

Mr Dempsey, who had been a great dandy once on a time, would fain have persuaded the world that he had not yet forfeited all claim to the appellation. He was thin and tall, and remarkably upright for his years. It was whispered that he wore stays, but that was probably a calumny. His complexion was of that tint which is usually associated with too free an indulgence in old port. He wore a brown curly wig, and his moustache and imperial were dyed to match. He wore his hat jauntily on one side, after the fashion of days gone by. This June morning he had on a long blue frock-coat, a white vest, fancy trousers, and patent boots with straps, not forgetting a moss rosebud and a sprig of maidenhair fern in his button-hole. When he sat down, he sat down with deliberation; and when he got up, he got up with deliberation. Either his clothes fitted him too well, or he was slightly stiff in the joints.

Captain Downes Dyson was a little innocent-looking, fair-complexioned man, with a small fluffy moustache, weak eyes, a thin piping voice, and an eyeglass which was a perpetual source of trouble to him. He was dressed quietly and like a gentleman.

Dick came to a stand in the middle of the lawn and drew forth his chronometer. 'Remember, ladies and gentlemen,' he called out with an air of authority, 'that the drag will be round in two hours from now. Vivat Regina!'

'What place are we going to visit to-day?' asked Dyson.

'The ruins of Belfont Abbey,' answered Dick.

'Ruins again—always ruins,' muttered Mr Dempsey discontentedly. 'I can't see what there is to interest anybody in a heap of old stones.'

Miss Deene overheard the remark. 'A sad state of things when one ruin has no respect for another,' she whispered mischievously to Dick.

Dempsey and Dyson had brought their newspapers and letters with them, and they now sat down at the same table with Pebworth, who was deep again in the *Times*. Clunie had moved away to a seat on the opposite side of the lawn, and there Elma joined her. Dick had found a garden-chair for himself somewhat in the background. Here he sat down, and leaning back, tilted his hat over his eyes, stuck his thumbs into the armholes of his waistcoat, and—cigar in mouth—went off into a brown-study.

'Time seems of no value in the country,' remarked Mr Pebworth in a casual sort of way. 'Past ten o'clock, and breakfast only just over. A clear loss of two hours per diem.'

'You can easily make up for it by sitting up two hours later at night,' responded the little Captain, who was addicted to post-prandial billiards.

'For my part, I think breakfast a mistake altogether,' said Dempsey. 'Why not follow the example of the great carnivora, and feed once in twenty-four hours?'

'First catching your food, and then killing it,' interpolated Pebworth.

'And afterwards eating it uncooked,' piped Dyson. 'It would save something in coals and servants.'

'Another mining catastrophe—another hundred or so of widows and orphans thrown on the world,' remarked Pebworth a minute later. Dempsey was waiting with ill-concealed impatience till he should have done with the *Times*. Certainly Pebworth was keeping it an unconscionable time.

'Why don't those mining fellows insure their lives?' asked Dyson.

'As a director of one of the largest insurance companies, I echo the question: Why don't they insure their lives?' This from Dempsey.

'To subscribe to any fund for the benefit of their widows and orphans is an encouragement of wilful improvidence,' resumed Pebworth. 'They won't get a penny of my money.'

'Nor of mine,' asseverated Dempsey.

'Nor of mine,' echoed the Captain.

GUARDING THE QUEEN.

THE many political assassinations that have taken place of late years have thrown upon the police of all countries an immense amount of difficult and delicate work in guarding monarchs, princes, and ministers. In England we have become familiarised with the idea that our leading statesmen must be escorted by detectives wherever they go; and popular as the Queen is, we know that elaborate precautions are taken to protect her every time she appears in public.

Few, however, can be aware of how much anxiety, activity, trouble, and consequent expense, are involved in that word 'protecting.' Looking only at the pecuniary side of the question, the fine which a madman or fanatic inflicts upon a country when he attempts, even without success, to take the life of a ruler, is considerable. The services of detectives have to be paid for; and to do their work properly, these officials must not be stinted of money for telegrams, railway and cab fares, and casual expenses. Sometimes they have to assume disguises, and to pay heavily for secret information as to alleged criminal designs; and though this information is often worthless, the police cannot afford to disregard any item of intelligence bearing upon the safety of the great personages whom they have to guard. Thus, the contents of every letter sent, whether anonymously or not, to Scotland Yard are carefully considered. The mischievous simpletons who concoct untruthful letters for fun, and the foolish busybodies who write to disclose 'suspicious circumstances' that have come under their notice, may all rest satisfied that they cause worry and waste of valuable time, if nothing worse. As the police have sometimes received warnings of great importance through unsigned missives bearing no guarantee of good faith, they make it a rule to investigate all facts not palpably absurd which are revealed to them; and doubtless by so doing they have often been enabled to prevent crimes.

Many an intending criminal must have been balked in his schemes by the timely discovery that his movements were being watched.

To guard a royal residence—that is, to keep an eye on suspicious characters who may prowl about it, or seek admittance—requires vigilance, but is easy work compared with the task of protecting the sovereign when she appears in public. Every time the Queen leaves one of her residences, even for an afternoon drive, the event is notified some hours beforehand to the police by the equerry on duty, who announces what itinerary Her Majesty will probably follow. At certain points all along the route, policemen have to be stationed, and detectives are placed at all the spots where the royal carriages are likely to stop. Round Balmoral and Osborne, the roads can be watched without difficulty; but not so round Windsor Castle and Buckingham Palace. Wherever crowds can congregate, the difficulties of the police are multiplied. A special superintendent is deputed on ordinary occasions to patrol the line of the royal progress; but when there is a state pageant, this duty is performed by the Chief Commissioner in person. He has to see that not only the policemen in uniform, but the detectives—unsuspected by the crowds among whom they stand—are all at their posts. A regular code of private signals exists by which a detective can make his presence known to his chiefs, and receive short instructions from them, without exciting the attention of bystanders.

The whole detective force of Scotland Yard, however, would be insufficient to keep proper surveillance over miles of streets, as, for instance, when the Queen went to open Epping Forest; so, on such occasions as these, hundreds of policemen 'off duty' are pressed into special service, and turn out in plain clothes. Then, again, there are men who, in consideration of having good places from which to view the procession, act as amateur detectives. Every detective and policeman has a few personal friends who will gladly undertake a duty of this kind, and very often women are among the number. Their instructions are invariably to keep their eyes and ears open; and *not* to cheer when the procession passes. In this, English detectives differ from those of foreign countries, who are frequently enjoined to start the cheering among the crowds; but the authorities of Scotland Yard have discovered that a detective who is bawling with all his might becomes useless for purposes of espionage. It is precisely when the cheering is loudest that danger is most to be apprehended, for the noise and the swaying of a multitude excite the nerves of the lunatic or criminal who is bent on mischief; therefore the police who are watching the crowd in its moment of greatest enthusiasm should remain perfectly cool.

They have also to protect the sovereign against others besides the evilly disposed, for there are always people who want to thrust petitions or bouquets into the Queen's carriage, or else to shake hands with Her Majesty. Happily, these eccentric individuals generally betray their purpose by their restlessness. The man with a petition keeps feeling his pocket, to assure himself that the precious thing is safe; and as the royal carriages approach, he half draws out the paper; but by this time a detective has observed his movements, and a strong hand laid suddenly upon his arm paralyses him at the opportune moment.

It is often lucky for would-be petitioners that they should be pulled back before they can accomplish their purpose; for if that purpose were misunderstood by a loyal mob, they might expose themselves to some very rough handling. The Queen is indeed very well guarded by the affection of her subjects, and, generally speaking, she has rather to fear annoyances from silly people than criminal attempts from vicious ones. This shows what terribly difficult work the police of some foreign countries must have to perform in guarding sovereigns who are unpopular. Occasionally, the English police have a taste of this work, when some of these unpopular potentates visit this country and have to be guarded against subjects of their own living here in exile. When Napoleon III. visited England in 1855, the government of the day suffered agonies of anxiety lest harm should befall him; and these alarms were renewed in 1874, when the late Czar Alexander II. came to London. On both of these occasions, money was poured out like water to insure a proper protection of the illustrious guests; and the police did their work so well, that although there were serious reasons for believing that malevolent refugees were brewing mischief, both Emperors left the country without having heard so much as a rude word. The police, however, may be pardoned for having felt the most pleasurable relief when the visits of these much threatened monarchs came to an end. When the Chief Commissioner, Sir Richard Mayne, received the telegram announcing that Napoleon III. had safely landed in France, he remarked with quiet satisfaction: 'Now I shall be able to get a good night's rest.'

Many of the difficulties of the police in guarding royal personages come from these illustrious persons themselves. Princes who are brave do not like to have their footsteps dogged in private life; and will sometimes grow impatient and angry when they find out that they have been watched for their own good. They have to be watched, nevertheless, whether they like it or not. It would never do for a royal Prince to be kidnapped and detained as a hostage by political or other desperadoes; and so care is taken that wherever a royal Prince may go, he shall always have his invisible escort of police. The Prince of Wales is guarded nearly as vigilantly as the Queen. If he travels by rail, surveillance is kept by the police all down the line; if his Royal Highness hunts, rides, drives, or takes a stroll on foot through any part of the West End, a detective is sure to be close at hand. So it is with other members of the royal family in these agitated times; and irksome as the supervision must be, it has to be submitted to with good grace because of its absolute necessity. The police, however, are sadly worried at times by those foreign Princes who come to visit our own royal family, and who delight in slipping out of palaces for rambles through the streets without giving any notice of their intentions. Some detective or other is always held responsible by his chiefs, and severely reprimanded when such a thing happens; for the police force on guard at the palaces is supposed to be

in a condition to provide for all contingencies of the sort.

It will be seen from all this that the office of court detective is by no means a sinecure; and one may add that it is of all posts that in which faithful, zealous, efficient service obtains the least honour and reward. Not that royal persons are ungrateful to those who guard them properly; but because the men who guard best are naturally those who make the least fuss. It is the duty of a court detective not only to shield Princes from danger, but to conceal from them, so far as possible, that they have been in danger. Thus a man whose sagacity and diligence may over and over again have saved Princes from annoyance or hurt, will often be less appreciated than the more demonstrative servant who, perhaps once in his life, has had the good luck to arrest the arm of an assassin after—not before—the pistol was fired.

HOW WE FORMED OUR VILLAGE LIBRARY.

THE small Scottish fishing-village which we shall meanwhile call Dalbin, is fourteen miles from the nearest railway station. The population within a radius of two miles from the village is only seven hundred souls. To try to establish a public circulating library in such a place might seem Quixotic; but a library has been established, and more than that, is successful. For the benefit of those situated in country districts, and too far from any public library to benefit by it, we propose to tell how the Dalbin public library was established and is conducted.

In the autumn of 1878, a few young men of the place met and talked of what they were to do during the coming winter. Both the Temperance Society and the Debating Club had become defunct, and there was no hope of reviving them. Even if they were revived, they would form an attraction for but a few people, and for only one night in the week. These young men had heard much of the good derived from libraries in other places, and they accordingly agreed that the best thing they could do was to establish one in Dalbin. But where were the necessary funds to come from? It was hopeless to think that the Free Libraries' Act would be adopted in the parish. In the first place, therefore, they posted bills, intimating that a public meeting of all interested would be held in the schoolroom, to consider how a public library could best be established. On the night appointed, twelve young men met, agreed that a library was necessary, appointed a Library Committee and Secretary, and gave their own subscriptions, amounting to three pounds. Four of the Committee were appointed to collect subscriptions from the inhabitants of the district; and in a month they returned with eight pounds as the result of their efforts. The Secretary wrote to several Dalbin young men who were prospering in larger towns elsewhere, and by return of post received three pounds.

It was now the beginning of December; and in order to raise an additional sum of money, they resolved to hold a concert on New-year's Eve. The night of the concert, however, chanced to be a stormy one, and the net gain amounted to only two pounds.

The treasurer had now in his hands a little over sixteen pounds—a small sum to begin a public library with; but it was resolved to make the trial. And here a new and unexpected difficulty arose. It was all along thought that as there were two small unused classrooms in connection with the Dalbin Public School, there would be no difficulty in obtaining the use of one of these for a library. But when this was asked for, the School-board said that they had no power to grant any of the schoolrooms for such a purpose; and as no other conveniently situated room could be found in Dalbin, the Committee were for a time in a fix. In order to get out of the difficulty, it was resolved that the members of the Library Committee should call on the School-board members as well as on the more influential ratepayers, and explain that the library would not intrude on school work or space. The consequence was that the former resolution of the School-board was rescinded, and the school offered to the Committee on the following conditions: (1) That the teacher had no objections, and would take charge of the library; (2) that the library trustees should be responsible for any damage done to the school buildings; and (3) that the library trustees should insure the building against fire.

The teacher having no objections, not only acquiesced in what the Board had done, but also willingly took charge of the library, and has since continued to be librarian and treasurer. The other conditions were also complied with by the Committee.

Such were the delays arising from these and other causes, that it was nearly midsummer before all the conditions were ratified.

The next step was to buy books. Each of the members suggested such books as he thought would be popular; and the list was then sent to Edinburgh, a friend there being asked to try and purchase them second-hand; and so well was the money invested, that for fourteen pounds they received a parcel containing no fewer than one hundred and seven well-bound standard volumes, which were duly stamped and numbered.

At the beginning of the winter of 1879–80, it was resolved that the library should be opened to the public forthwith. The regulations were few and simple, and copies of them, with a list of the subscribers, were ordered to be hung on the wall. These rules are—(1) The library is open on Tuesday evenings from eight to nine o'clock; (2) the subscription fee is sixpence per quarter, payable in advance; (3) no book can be kept more than a month by any one reader; and (4) any one damaging or failing to return a book is responsible for the same.

It was expected that about ten volumes would be taken out nightly; but all were pleasantly surprised to find that on the first night no fewer than twenty-six came for books; and on the following Tuesday no fewer than thirty-four came. It was evident that if such a drain continued, there would soon be few books, if any, for the subscribers to choose from. The Committee therefore set themselves again to work to supply the demand thus unexpectedly made on them. To begin with, they redoubled their own subscriptions, and

early in March, held a concert, which realised five pounds. The member of parliament for the county gave five pounds; the gentleman who had the shooting of Dalbin, five pounds; and the proprietor of Dalbin, four guineas. In this way, in less than three months, one hundred and ninety new volumes were added. 'Nothing succeeds like success,' and those who at first looked askance at the movement, now subscribed, and became readers.

In due time the annual Report was issued, which showed that for the year 1879-80 the income amounted to twenty-seven pounds; that two hundred and seventy new volumes had been added; that there were as many as sixty-four subscribers; and that eight hundred and fifteen volumes, or sixteen per week, had been taken out. This in Dalbin meant a great deal of reading, as there is seldom more than one who subscribes out of a family, and doubtless each member who wishes has the reading of the book before it is returned.

Another annual Report has since been issued, which shows that the income for the second year had been nineteen pounds; that two hundred and four new volumes were added; that the number of readers was fifty, and the number of volumes taken out eight hundred and eleven. The falling off in 'books taken out' is attributable to the fact, that there was a well-attended singing class carried on for four nights per week during the winter. The deficiency of income also was anticipated, as those interested who gave a donation once were scarcely expected to do so again.

Two new experiments have been tried during the year, namely, the lending of books to the school-children at one penny per quarter, and the addition of a few of the monthly magazines. The school-children get books out on the Friday afternoons, and during one year they have thus taken out three hundred and thirteen volumes, of which they were able to tell something when they returned them.

Now that the library has had a fair start, it is calculated that there will be a surplus of two pounds per annum, independently of any donations which may be received from friends. This sum is spent in purchasing books, so that the library is continually though slowly growing. Moreover, so strong has the desire of reading become in a few of those who were the most regular readers, that, seeing they could not gratify themselves at Dalbin they had clubbed together, and now get monthly parcels of books from lending libraries in the larger towns.

STRANGE, BUT TRUE.

In a very entertaining work entitled *Random Shots by a Rifleman*, written by the late Captain Kincaid of the old 95th Regiment—then the Rifle Brigade—there is a story told which at my first perusal appeared to possess many of the qualities contained in those amusing fictions narrated by Baron Münchhausen. Later, however, on becoming better acquainted with the author, I felt convinced he had been detailing facts; and of this I received unexpected proof in after-life. I regret I have not Captain Kincaid's work at hand; but, to the best of my recollection, the author's story ran somewhat as follows.

In one of the many actions in which our troops were engaged under Wellington during the Peninsular War, an officer had one of the large muscles of his neck which support the head severed by a Frenchman's bullet. The wound soon healed, and the injured officer suffered from it little inconvenience beyond that of having to carry his head rather drooping to the one side. At the battle of Waterloo this officer was also present, and was again wounded in the neck by a bullet, which, strange to say, cut through the opposite muscle of his neck supporting his head; and thus the second rectified the mischief done by the first bullet; and, as a matter of fact, the officer's head was set straight upon his shoulders. When writing the above story, Captain Kincaid was apparently fully aware of its improbable nature; and in justice to himself, adds: 'I would not have dared to repeat this story, were not the wounded officer alive at the time of my writing, and ready to corroborate the same.' Captain Kincaid then proceeds to give the officer's name, together with that of his residence; both of which I at present forget, but which are to be found in *Random Shots*.

I may here say that I was not in the habit of repeating the above story; for although I felt perfect faith in Captain Kincaid's veracity, I could not but fear there might be those who would doubt my own. It happened, however, in the year 1847 that I, when quartered at Sheffield, attended a yeomanry dinner, during the course of which the conversation turned upon the subject of remarkable wounds; and on this occasion I was tempted to add Captain Kincaid's story to others almost equally startling. As I had expected, I noticed that the story was received with incredulous smiles, the further development of which politeness alone prevented. I could not follow Captain Kincaid's example, and give the name of the wounded officer, nor the place of his residence; I had forgotten both; and I felt myself rapidly sinking in the esteem of the company, when, to my surprise and delight, one of the yeomanry officers present—a gentleman almost a perfect stranger to me, but well known to the rest of the company—remarked in a distinct voice across the table: 'You have told that story very well, sir. There is, however, one fact of importance you have omitted to mention, namely, that in consequence of both the muscles of the neck having been injured, the head of the gentleman, although straight, has very much sunk on to his shoulders. He is a friend of mine, and well known to others in this neighbourhood, and at present resides within ten miles of this town.' The yeomanry officer then repeated the name and residence of the wounded officer, thus corroborating Captain Kincaid.

The second story I wish to relate is as follows.

XUM

On first joining my regiment in the Bombay Presidency, I was, like most young men, very desirous of an opportunity of hunting large game; and in order that I might not behave myself like a thorough 'griff' on my first interview with the denizens of the Indian jungles, I proceeded to study all works treating on the subject of *shikaar* which came in my way. Amongst others, I became much interested in a book written by Major Forbes, then of the 78th Highlanders, and which was styled *Ten Years' Residence in Ceylon*. At the time to which I refer, my regiment was brigaded with the Ross-shire Buffs, and I was not unfrequently brought into contact with Major Forbes both at the mess-table and on duty. I soon learned to esteem this officer both as an excellent soldier and as a fine specimen of the Scottish gentleman, one who under no circumstances would wilfully utter or propagate an untruth. In the book above referred to, Major Forbes gives a pleasantly written description of many parts of the island of Ceylon, interlarded occasionally with interesting anecdotes connected with the pursuit of large game. Amongst other stories, the author details one which, had I not been personally acquainted with Major Forbes, I should in all probability have soon forgotten, or remembered only as one of those fictions so frequently narrated in order to impart a raciness to an otherwise dull book.

The story as given by Major Forbes ran, to the best of my recollection, much as follows. An officer belonging to one of the regiments then stationed in Ceylon, had with him, when on an excursion hunting wild elephants, an old-fashioned single-barrelled gun of the pattern in vogue before the introduction of the patent breech. To this old-fashioned fowling-piece, there was no breech block, but the near part of the barrel was secured by a tongue of iron, which overlapped, and which was screwed in to the upper face of the stock. On the present occasion, this old-fashioned weapon, on being fired, burst, and a large portion of the iron which formed the breech, together with the tongue and screw which connected the barrel to the stock, was forcibly driven into his head. Major Forbes adds that this officer, badly wounded as he was, survived ten years, and lived with this lump of iron in his head without suffering any serious inconvenience; and that he afterwards died from the effects of fever. Thus far from Major Forbes's book.

In the year 1849, it happened that in company with a brother-officer, and under the guidance of one of the senior medical officers at Fort Pitt, I was inspecting the Museum connected with that Hospital. Suddenly, my eyes lighted on an object of which I had not been thinking for many years, but which I at once recognised as the breech of the old gun so accurately described by the author of *Ten Years' Residence in Ceylon*. In order that there might be no mistake, I inquired of the doctor whether he could tell me what the object was, and further whether he knew anything of the history connected with it. 'That,' said he, 'is the model of the breech of a gun, the original of which was cut out from the head of a deceased officer in Ceylon, after it had been imbedded in it during ten years of his life.' Here was corroboration number one of Major Forbes's story.

A few years later, I happened to be strolling on the parade-ground at Lahore, and in company with the surgeon of the 96th Regiment, I was conversing on the subject of the wonderful recovery made from gunshot and other wounds. Remembering that my companion had served for a considerable time in Ceylon, I inquired whether he had ever heard of the extraordinary case mentioned by Major Forbes, of an officer living for ten years with the breech of a gun lodged in his head. To my astonishment, he replied: 'Not only have I heard of the case, but I was, moreover, at the time very much concerned with it. I happened to be,' he continued, 'in the immediate neighbourhood when the occurrence took place; and the wounded man was brought to me first for medical advice and treatment. I at once recommended that the block of iron should be cut out; but as at that time I was a young assistant-surgeon, the officer hesitated to accept my advice, and requested he might be taken in to the nearest station, there to see and consult with the surgeon of his own regiment. This surgeon was rather behind the age in the science of operations, and pronounced it as his opinion that there was less danger to be apprehended in permitting the iron to remain in the wounded man's head than in the making any attempt to extract it.' My friend the surgeon of the 96th went on to say: 'I remained in Ceylon for many years after this accident, and I may say watched the result. The wounded officer continued to enjoy very fair health, and to perform duty with his regiment for upwards of ten years.

'His death occurred in the following manner. An officer belonging to the same regiment was about to proceed to England on sick-leave, in fact suffering from a disease of the lungs. On the eve of the day of his departure, this officer found himself at a late hour at the mess-table in company with the man who had survived for so many years the accident occasioned by the bursting of his gun. These two were the only occupants of the mess-table, and had, there is little doubt, imbibed more wine than was good for them. Somehow, in drinking parting bumpers, they lapsed from the maudlin into the quarrelsome state, and began the one to twit the other with his infirmities. At last he of the weak lungs being stung by some remark from his companion regarding the delicacy of his chest, backed himself to shout the louder and the longer of the two. This challenge was accepted. The contest had, however, not long continued, when, with a hand pressed to his temples, the man with the wound in his head rose up from the table and staggered off to his quarters. That night he became very ill; and in three days the man who had for the last ten years of his life carried a lump of iron in his head almost with impunity, succumbed to an attack of brain-fever. After death, his head was opened; and it was then discovered that this lump of iron had been slowly but surely working its way towards the brain, from which it had latterly only been separated by a thin skin or membrane. In his insane exertions to compete in noise with his weak-chested companion on the night mentioned, he had ruptured this membrane. The iron coming into contact and pressing upon the brain, had produced brain-

fever, from which the unfortunate man died within three days.'

Here my friend concluded his narrative, and completed a full corroboration of Major Forbes's story.

THE HUMOURS OF EXAMINATIONS.

As a rule, examinations are not regarded by the outside world as occasions on which a display of humour may be expected. But if exceptions prove the rule, then may examinations claim to afford a very rich fund of ludicrous incidents. There are naturally varied circumstances in examinations which call forth the wit of the candidate. The humour varies, in fact, with the particular person who is being examined, and what is the topic of conversation between examiner and candidate. There is to be distinguished a medical as well as a legal humour; and conspicuous amongst the occasions which afford opportunity for the display of the ludicrous, are those examinations which, dignified by the name of 'general knowledge' trials, afford a very wide and rich field for the ingenuity of candidates.

A thought may suggest itself to readers who reflect upon the subject of examination-humour, that of all circumstances, the position of a candidate at an examination table is the least likely situation to evoke a sense of the humorous. The racking of the brain to find an answer to an oral question, the knowledge that the examiner is waiting with a fixity of gaze for one's reply, and the desperation with which at last the candidate may rise to the occasion, form a series of circumstances, out of which a joke might be regarded as least likely to arise. But it is this very desperation which is frequently the natural parent of the witticism. The candidate makes up his mind to say or write something, and that something, as often as not, is, in an innocent moment of inspiration, a joke.

One of the frequent causes of humour at examinations is of course the ignorance of candidates. A person was once asked to answer the question, 'Who was Esau?' His reply was highly characteristic. 'Esau,' said he, 'was a man who wrote fables, and who sold the copyright to a publisher for a bottle of potash!' The confusion of 'Esau' and 'Æsop,' of 'copyright' and birthright,' of 'pottage' and 'potash,' is an example of humour of by no means an unusual class. Another student was asked to give some account of Wolsey. His reply was unique. 'Wolsey was a famous General who fought in the Crimean War, and who, after being *decapitated several times*, said to Cromwell: "Ah, if I had only served you as you have served me, I would not have been deserted in my old age!"'

In an examination destined to test the general knowledge of young lads about to enter the ranks of professional student-life, a series of questions was put as tests of the reading of the candidates. The following were some of the replies obtained from the aspiring youths. 'What was the Star Chamber?' Answer: 'An astronomer's room!'—'What was meant by the "Year of Jubilee?"' Answer: 'Leap-year.'—'What was the "Bronze Age?"' Answer: 'When the new pennies became current coin of the realm.'—'What are the "Letters of Junius?"' Answer: 'Letters written in the month of June.'—'What is the Age of Reason?' Answer: 'The time that has elapsed since the person of that name was born!'

The replies given to questions of a scientific nature are often of a remarkably curious, not to say extraordinary kind, and appear frequently to result from a want of appreciation of the exact meaning of the teaching. We know, for example, of a student in a popular class of physiology, who on being asked to describe the bones of the arm, stated in the course of his reply that the bone of the upper arm (named *humerus* in anatomy) 'was called the *humorous*, and that it received its name because it was known as the "funny bone."' The Latin name of the bone had evidently become confused in the student's mind with the popular name given to the elbow, the nerve of which on being violently struck, say, against a piece of furniture, gives rise to the well-known sensation of 'pins and needles' in the arm and hand. Another answer given in an anatomy class is worth recording. The teacher had described the *tarsus* or ankle-bones—the scientific name of course being simply the Latin equivalent for the ankle. No such philological idea had troubled at least the student who replied to a question concerning the ankle, 'That it was called the *tarsus* because St Paul had walked upon it, to the city of that name!' Still more ludicrous was the confusion of ideas which beset a student who was questioned regarding the nature of the organ known as the *pancreas* or 'sweetbread,' which, as most readers know, is an organ situated near the stomach, and supplying a fluid of great use to the digestion of food. The reply of this latter student was as follows: 'The sweetbread is called the Pancreas, being so named after the Midland Railway Station in London!' Anything more extraordinary or ludicrous than the confusion of ideas as to the relation between St Pancras Railway Station and an organ of the human body, can hardly be conceived.

It is related of a rough-and-ready examiner in medicine that on one occasion having failed to elicit satisfactory replies from a student regarding the muscular arrangements of the arm and leg, he somewhat brusquely said: 'Ah! perhaps, sir, you could tell me the names of the muscles I would put in action were I to kick you!'—'Certainly, sir,' replied the candidate; 'you would put in motion the flexors and extensors of my arms, for I should use them to knock you down!' History is silent, and perhaps wisely so, concerning the fate of this particular student. The story is told of a witty Irish student, who, once upon a time, appeared before an Examining Board to undergo an examination in medical jurisprudence. The subject of examination was poisons, and the examiner had selected that deadly poison prussic acid as the subject of his questions. 'Pray, sir,' said he to the candidate, 'what is a poisonous dose of prussic acid?' After cogitating for a moment, the student replied with promptitude: 'Half an ounce, sir!' Horrified at the extreme ignorance of the candidate, the examiner exclaimed: 'Half an ounce! Why, sir, you must be dreaming! That is an amount which would poison a community, sir, not to speak of an

individual!'—'Well, sir,' replied the Hibernian, 'I only thought I'd be on the safe side when you asked a poisonous dose!'—'But pray, sir,' continued the examiner, intent on ascertaining the candidate's real knowledge, 'suppose a man did swallow half an ounce of prussic acid, what treatment would you prescribe?'—'I'd ride home for a stomach-pump,' replied the unabashed student.—'Are you aware, sir,' retorted the examiner, 'that prussic acid is a poison which acts with great rapidity?'—'Well, yes,' replied the student.—'Then, sir, suppose you did such a foolish thing as you have just stated,' said the examiner; 'you ride home for your stomach-pump; and on returning you find your patient dead. What would you, or what could you do then?' asked the examiner in triumph, thinking he had driven his victim into a corner whence there was no escape.—'What would I do?' reiterated the student. 'Do?—why, I'd hould a post-mortem!' For once in his life, that examiner must have felt that dense ignorance united to a power of repartee was more than a match for him.

Incidents of a highly ludicrous nature frequently occur in the examination of patients both by doctors and by students. A Professor on one occasion was lecturing to his class on the means of diagnosing disease by the external appearance, face, and other details of the patient. Expressing his belief that a patient before the class afforded an example of the practice in question, the Professor said to the individual: 'Ah! you are troubled with gout!'—'No, sir,' said the man; 'I've never had any such complaint!'—'But,' said the Professor, 'your father must have had gout!'—'No, sir,' was the reply; 'nor my mother either!'—'Ah, very strange,' said the Professor to his class. 'I'm still convinced that this man is a gouty subject. I see that his front teeth show all the characters which we are accustomed to note in gout.'—'Front teeth!' ejaculated the patient.—'Yes,' retorted the Professor; 'I'm convinced my diagnosis is correct. You have gout, sir!'—'Well, that beats everything,' replied the man; 'it's the first time, sir, I've ever heard of false teeth having the gout! I've had this set for the last ten years!' The effect of this sally on the part of the patient, upon the inquisitorial Professor and his students, may be better imagined than described.

Occasionally within the precincts of colleges and universities, a rich vein of humour may be struck in a very unexpected fashion. On one occasion a Professor, noticing that certain members of his class were inattentive during the lecture, suddenly arrested his flow of oratory, and addressing one of the students, said: 'Pray, Mr Johnston, what is your opinion of the position of the animals just described, in the created scale?'—'Mr Johnston' was forced to say that 'really he had no views whatever on the subject.'—Whereupon, the Professor turning to a second inattentive student—who had evidently not caught 'Mr Johnston's' reply or its purport—said: 'Mr Smith, what is your opinion of the position of these animals in the classified series?'—'O sir,' replied the innocent Smith, 'my opinions exactly coincide with those just expressed so lucidly and clearly by Mr Johnston!'

There are examiners, and examiners, of course; some stern, others mild and encouraging; some who try to discover what a student knows, and others whose aim appears to be rather that of elucidating the ignorance of the candidates who appear before them. But to the end of time, there will be humour mixed with the grave concerns of testing knowledge, which is, for both sides, a hard enough task. The student who, when asked by a stern examiner what he would recommend in order to produce copious perspiration in a patient, replied, 'I'd make him try to pass an examination before you, sir!' had a keen sense of humour, which it is to be hoped the examiner appreciated. His answer was in keeping with the question which has been argued by us and by others, whether the whole subject of examinations, as at present conducted, should not be thoroughly overhauled and revised.

WASHED ASHORE.

To-night there is a storm at sea;
I hear the breakers roar;
There comes across the grassy lea
The thunder of the shore,
And pity burns within my soul
For those upon the deep.
Kind Saviour Christ, do Thou control
The waves, and bid them sleep!

A week ago, one walked alone
Across yon sandy beach,
And close beside a rocky stone,
Out of the billows' reach,
He found, washed up 'mid weeds and shells,
These letters, stained and worn—
Sad records of some heart that dwells
All lonely and forlorn.

Some sad-eyed woman dwells remote
From the tempestuous sea,
And months ago those letters wrote—
An aching heart had she;
Her sailor-husband far away
Bore in his faithful breast
Those lines of hers which speak to-day
Of home, and love, and rest.

She tells him of her lonely life,
And how she prays that he
May not forget his loving wife
While on the stormy sea;
And how she asks that God would keep
His vessel from all ill,
And, as of old, make winds to sleep,
And furious waves be still.

Alas! a schooner on our shore,
By stormy billows tossed,
Went down amid the tempest's roar,
And every soul was lost!
So still, a woman, heavy-eyed,
May wait in hope at home
For him whom neither wind nor tide
Shall help across the foam.

. . . . .

Ah, me! the wind blows loud to-night.
Christ save poor souls at sea!
Burn brightly every beacon-light
Wherever ships may be.

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